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ABSTRACT

This study examines two ideas that have emerged from research involving African American adolescents with respect to academic achievement: (1) the notion that African American students do not support their peers' academic endeavors; and (2) the notion that African Americans do poorly in school as a result of alienation in the classroom, and may subsequently disengage from school. The study, the third segment of a larger study, examines the relation of peer support to academic achievement and academic performance in a normative sample of African American adolescents (n=515). Structural equation modeling analyses revealed positive relations among social competence, peer support, school belonging, achievement motivation, and grade point average for African American adolescents. The full model fit the data poorly, which suggests considerable variance for which the present model has not accounted. The limitations and future research directions of this investigation are also discussed. (Contains 2 tables, 2 figures, and 50 references.) (SLD)

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How Does Peer Support Relate to African-American Adolescents' Academic Outcomes?

Testing a Conceptual Model

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Poster presented at the Biennial Meeting of the Society for Research in Child Development

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How Does Peer Support Relate to the Academic Outcomes of African-American Adolescents? Testing a Conceptual Model

The academic performance of African-Americans has long been a topic of interest in the research community. Findings have consistently indicated that the educational outcomes of African-American students are not as positive as the outcomes are for other groups, such as European and some Asian-Americans (Patchen, 1982; Steele, 1992,1998). For example, African-Americans have historically experienced negative educational outcomes such as lower grade point averages, achievement test scores (Nettles & Perna, 1997), and higher drop out rates (Finn, 1989; Nettles & Perna, 1997; Slaughter, 1974). Further, disparities in academic achievement eventually contribute to lower enrollment in institutions of higher learning (NCES, 1995; Nettles & Perna, 1997), as well as more difficulty obtaining gainful employment (e.g., Nettles & Perna, 1997; Wilson, 1987).

Research investigating the reasons behind these disparities in academic achievement, college enrollment and gainful employment has chiefly focused on issues that involve the genetic and cultural makeup of African Americans. Thus, a large portion of "mainstream" research has focused on the cognitive and cultural "shortcomings" of African Americans. However, in opposition to the logical and empirical inconsistencies of these studies, which often use a deficit approach, other researchers have sought to find alternative explanations for the "achievement gap". Therefore, their investigations have chosen to examine the "shortcomings" of the environment in which African Americans are educated.

In an effort to examine antecedents to these inequities in academic performance, the present study examines social factors that may relate to the academic outcomes of African-American adolescents. Specifically, I this study will examine the relation between support from the adolescents' peer group and academic outcomes. As there is a preponderance of research that examines the dysfunctional aspects of African-American adolescents' development and outcomes, particularly in terms of peer influence, I have chosen to take a more normative approach to adolescent development. However, I will first review the approaches that have dominated the study of the relation between peers and academic outcomes in African-American adolescents.

Adolescent peer influence and academic achievement

Adolescence has commonly been characterized as a time during which the peer group becomes increasingly important to the adolescent as a socializing force (e.g., Berndt, 1979). The assumption that adolescents begin to reject the values of their parents in order to follow along with their peers has led to an abundance of research which has focused on the peer influence phenomenon in terms of antisocial behaviors, such as smoking, drug use and sexual behavior (e.g., Bahr, Marcos & Maughan, 1995; Diclemente, 1991). Further, peer influence has dominated the study of the role of the peer group and academic outcomes, and has been associated with adolescents' motivation and subsequent academic achievement in a number of studies (e.g., Berndt & Keefe, 1995; Epstein, 1983; Kindermann, 1993; Steinberg, Dornbusch & Brown, 1992; Wong, Eccles & Taylor, in press). For example, Berndt, Laychak and Park (1990) found that

peers do influence achievement motivation, particularly when they have a close, nonconflictual relationship.

Despite findings that have linked adolescent peer influence to both positive and negative outcomes across several domains (e.g., Brown, 1982; Clasen & Brown, 1985; Epstein, 1983), researchers have continued to examine solely the negative impact of peer influence. Little emphasis has been placed on the positive aspects of peer socialization (via influence), particularly when investigating African-American adolescents. For example, a number of researchers have contended that African-American students' opposition to the notion that education is a viable resource for upward mobility contributes substantially to the gap in academic achievement (Fordham & Ogbu, 1986; Ogbu, 1991). Fordham and Ogbu (1986) found that the African-American students they studied equated doing well in school with "acting White". As a result, Steinberg, Dornbush and Brown (1992) argue, African-American students receive less support for achievement from their peers of the same ethnic background, and do not fare as well in school as European-American students.

Further, researchers argue that this opposition to academic excellence manifests itself in active discouragement of academic achievement, such that those who dare to do well suffer socially as a consequence (Ford, 1991, 1993). Ford (1993) found that the "gifted" (as measured by achievement tests) African-American adolescents she investigated often underachieved to avoid teasing and ostracism by their fellow classmates. Therefore, in order to gain acceptance from their classmates, these underachieving students did not perform to their potential, and expressed less interest in their schoolwork and classroom activity.

Although this compelling research may begin to explain the reasons for which some students do not do well in school, this work, fails to account for some of the contextual factors within the school that may moderate or mediate oppositional attitudes toward school. For example, the culture of the school, that is, the school's system or organization, can prove to be either a motivating or discouraging force in academic achievement (Eccles & Midgley, 1984). Moreover, the availability of peers who endorse achievement-related behaviors may serve as a buffer from negative attitudes, and a school culture that is not conducive to the motivation of its students.

Furthermore, Fordham and Ogbu (1986) generalized the students' attitudes and values in one school to all African-American children. In so doing, they failed to acknowledge the diversity in attitudes and values that exist among African-American students. For example, Senior and Anderson (1993) found that students in the urban, predominantly African-American high schools they studied respected the "smart but popular" students the most. Moreover, the "smart" students were also highly respected, which demonstrates that some African-American children do respect academic success and the students who do well in school. Furthermore, Fordham and Ogbu may have failed to make the distinction between different aspects of ethnic identity (see Sellers, Chavous & Cooke, 1998). They may also have failed to distinguish between behavioral conceptions of ethnic identity (i.e., "acting" African-American or European American) and cognitive conceptions of ethnic identity (i.e., what it means to be African-American). Clearly these two concepts are related, but may not have the same impact on academic outcomes.

The existing research on peer influence as it relates to the academic achievement of African-Americans has provided a plausible, but incomplete picture of the role of the peer group. Although there is evidence to support both positive and negative interactions among adolescents and their peers, in general, researchers have chosen to focus largely on the negative aspects of peer interaction when investigating African-American adolescents. Therefore, just as a link has been established between negative peer influence and academic outcomes (Berndt, Laychak & Park, 1990; Berndt & Keefe, 1995), a similar link may be established between positive peer influence and academic outcomes (e.g., Epstein, 1983). Thus, in thinking about ways in which peers can impact the academic achievement of adolescents, it is important to investigate the impact of positively oriented peer influences as related to academic achievement. One way to think about this issue is to examine the effects of peer support on adolescents' academic outcomes.

Peer Support among Adolescents

Although the social support literature is fraught with methodological inconsistencies, researchers contend that in general, social support has either a direct, indirect and/or mediating effect on a number of outcomes (see Brownell & Schumaker, 1984)[1] . However, the majority of the small body of research pertaining specifically to adolescents and the support they receive from their peer group has found either indirect or buffering effects for social support (e.g., Herman-Stahl & Petersen, 1996; Wasserstein & LaGreca, 1996). It should be noted that of those, few studies that have found direct effects, and that some investigations have found a negative relation between peer support

and outcomes for adolescents (e.g., Cauce, Felner & Primavera, 1982; Cotterell, 1992; McFarlane, Bellissimo & Norman, 1995).

In the academic domain, peer support during adolescence has been investigated most frequently in relation to academic adjustment and academic achievement (e.g. Cauce, et al., 1982; Cotterell, 1992; Fenzel & Blyth, 1986; Fuligni, 1997; Wentzel, 1994). The findings here have been equivocal at best. In addition, few studies have included African-American adolescents. Fuligni (1997) examined the relative impact of peer support, as well as other proximal environmental factors, on the academic achievement of students from immigrant families (primarily from Asian countries), and found that peer support for achievement had no independent effects on academic achievement. In contrast, other studies have found evidence of a negative or inverse relation between peer support and achievement outcomes (Cauce, et al., 1982; Cotterell, 1992). For example, Cauce, et al. (1982) found a positive relation between informal (i.e., peer and non-familial adult) support and school absenteeism, as well as a negative relation between peer support and grade point average. Similarly, Cotterell (1992) found male adolescents' perceptions of supportive ties to be negatively related to academic self-concept and academic plans. However, Levitt, Guacci-Franco and Levitt (1994) found peer support to be positively related both directly and indirectly to achievement (measured by SAT scores) through self-concept in their sample of African-American, Latino and European-American eighth and ninth grade students.

Some evidence indicates that the relation between peer support and academic achievement-related outcomes is more social in nature (e.g., Cotterell, 1992; Wentzel, 1994). For example, Wentzel found that academic support from peers was positively

related to the pursuit of academic prosocial goals, as well as efforts to achieve academic social responsibility goals. Therefore, the adolescents in this investigation who were supported by their peers were more engaged in socially responsible behavior in the classroom. Appropriate social behavior has been identified as an important factor in peer acceptance which, in turn, is related to academic achievement (French, Conrad & Turner, 1995; Walters & Bowen, 1997). Therefore, those students who are supported by their peers tend to act in a more socially acceptable manner, which garners further acceptance by their peers.

Rationale for study

Taken together, the existing research on African-Americans' academic performance and motivation to achieve is somewhat inconclusive. An abundance of research has attempted to substantiate the link between the social issues with which African-Americans must contend (e.g., racism, stigma, poverty) and their value of education. However, there is a significant amount of evidence to support African-Americans' high levels of educational value, as well as the positive relation between African-Americans' ethnic identity and achievement motivation. Further, the link between peer socialization (via peer influence), achievement motivation, and academic achievement remains unclear. Therefore, the goal of the present investigation is to shed some light on the role of peers in the relation between motivation and academic achievement. Specifically, the present study examines the relation between peer support and academic achievement in a normative sample of African-American adolescents. It is my goal to increase our understanding of the role of supportive relationships in terms of adolescents' motivational and academic outcomes.

This study will examine two ideas that have emerged from research involving African American adolescents with respect to academic achievement: 1) the notion that African American students do not support their peers' academic endeavors, and 2) the notion that African Americans do poorly in school as a result of alienation in the classroom, and may subsequently disengage from school as a result. Together, both of these ideas address the two components of the disidentification model of academic achievement motivation. The first component is social in nature, and involves the relation between the adolescent and his or her peer group. Therefore, the first component pertains to the expectancies, values and beliefs of the adolescents' peer group, and how those beliefs impact the adolescent's motivation to achieve. The second component is psychological in nature. That is, the adolescents' personal expectancies and values impact subsequent motivation and achievement.

Description of Study

Given the contradictory findings from previous research on adolescents and support, particularly within the school domain, it can be assumed that the role and function of peer support is context-dependent. That is, a number of factors, such as the type of support received, the psychological well-being of the individual, and the abundance of resources that can be provided by one's support network all moderate the effects of support. Therefore, the theoretical model shown here (see Figure 1) is an effort to conceptualize how support from the peer group may indirectly influence academic performance (measured here by grade point average) of African-American adolescents through their sense of school belonging, and subsequent achievement motivation. It should be noted that although support is often viewed as an exchange relationship among

individuals (e.g., Brownell & Schumaker, 1984), this model is only designed to capture the support process in one direction--from the provider to the recipient. I chose this approach solely for simplification purposes. That is, to include bidirectional relations in the current model would make the model complicated, and would detract attention from the question I planned to address.

The theoretical basis for this investigation is drawn primarily from ecological systems theory (Bronfenbrenner, 1979, 1997). I chose this theory as a foundation for my investigation because it acknowledges the importance of context in individuals' development. Specifically, ecological systems theory contends that the child's development is shaped by the interplay between both proximal and distal elements in the child's environment. Therefore, in terms of my investigation, ecological systems theory stresses the emerging salience of peer relationships during adolescence. Further, ecological systems theory is based upon the premise "that what matters for behavior and development is the environment as it is perceived rather than as it may exist in 'objective' reality" (Bronfenbrenner, 1979, p.4). Therefore, adolescents' perceptions about their peers, as well as themselves in relation to their school performance are taken into account.

The achievement motivation component of my investigation is guided by expectancy value theory (Eccles [Parsons], et al., 1983; Eccles & Wigfield, 1995; Wigfield & Eccles, 1992). Specifically, it is my contention that achievement is related to adolescents' beliefs about school and their perception of their abilities in the school domain. Further, how the adolescent feels about school may be shaped by the perceptions of significant others (i.e., parents, teachers, peers) in the adolescents' life. As a result, support from the

adolescent's peers may be a reflection of the group's value of school, and may foster belonging and the motivation to achieve. Taken together, these two theories incorporate adolescents' perceptions of their school environment and how these perceptions, in turn impact adolescents' beliefs about themselves, and their subsequent academic performance.

Methods

Participants

The participants in this study (N=515) are a subsample of the Maryland Adolescent Growth in Context Study (MAGICS)[2], an ongoing, longitudinal investigation of adolescents' development. In the fall and winter of the 1991-92 academic year, a total of 1700 families were contacted through 23 public middle schools to participate in this study. The middle schools from which these families were recruited are located in a large county in Maryland, just outside Washington, DC. The 1482 parents, children and teachers who comprise the participants in this study were selected based upon both their willingness to participate and on a stratified sampling procedure, which was used to ensure proportional representation from each of the schools contacted. The ethnic composition of the sample, 61% African-Americans and 33% European Americans, reflects the ethnic composition of the county, which is 67% African-American. The median family income for the African-Americans participants was approximately $42,500 in 1993, while the median income was $52,500 in the same year for the European-Americans.

The data used in the present studies are from the second and third waves of data collection, which were collected after the end of the adolescents' eighth grade year

(1993), and during the second half of their eleventh grade year (1996), respectively[1]. The items used here have been taken primarily from the self-administered portion of the youth questionnaire. The participants in this investigation include the 515 African-American adolescents (254 females, 263 males)

Procedure

The participants were administered both face-to-face interviews and self-administered questionnaires by trained interviewers from the community. These community interviewers visited the adolescents and their families in their homes. Efforts were made to match the ethnicity of the interviewer with that of the target child and primary caregiver. Each face-to-face interview took approximately 60 to 90 minutes to complete, while each self-administered questionnaire took approximately 30 to 45 minutes. Youth respondents were paid $20 for their participation at each wave ($15 for the face-to-face interview, $5 for the self-administered questionnaire). In order to ensure the quality and accuracy of questionnaire administration, 15% of the families interviewed were contacted by study staff to verify that the interview had taken place and that the interviewer had followed the proper guidelines for conducting the interview. All of these families confirmed the interview's quality.

Measures

The items from which the scales used in this study were created were part of self-administered questionnaires used in the second and third waves of data collection (Eccles, 1993, 1996). The majority of the scales used in these analyses were developed using principal-components factor analysis (oblimin rotation) and were developed for this

study. The scales were created by taking the mean of the unit weighted responses for the items included in each scale. The description of each measure is as follows:

Availability of support. (Alpha=.71 at Wave 2; .66 at Wave 3) This scale assesses adolescent perceptions of the frequency with which their friends or other students are available to help with school problems. The scale contains four items with a five-point response scale, anchored with (1=almost never; 5=almost always). Sample items include: "When you have a social or personal problem at school, how often can you depend on you friends to help you out?"; "When you have a problem with school work, how often can you depend on your friends to help you out?"

Communication support[4]. (Alpha=.72 at Wave 2; .81 at Wave 3) A five-item scale that assesses adolescents' perceptions of the frequency with which they discuss problems with their friends. The scale uses a six-point response scale (1=almost never; 6=almost every day). Items include: "How often do you talk to your friends about school problems?"; "How often do you talk to your friends about your plans for the future

School Racial Composition. This measure is used as an indicator of the racial composition of the school the adolescent attended at Wave 2. The actual value of the measure is the proportion of African-Americans who attend each school.

Parents' perception of adolescents' social competence. (Alpha=.71 at Wave 2). An eight-item scale derived from Child Behavior Checklist items (Achenbach, 1991). These items, which are included on both waves of the parent questionnaire, assess parents' perceptions of their adolescents' ability to forge quality relationships with others. Items use a three-point response scale (0=Not true; 1=Somewhat or sometimes true;

2=Very true or often true). Sample items include: Doesn't get along with other kids; Withdrawn, doesn't get involved with others.

Perception of Social Competence. (Alpha=.67 at Wave 2). This scale assesses adolescents' perceptions of their ability to forge and maintain social relationships, as well as the ability to deal with their environment. The scale contains four items with a 5-point response scale with anchors varying depending on the item. Sample items include, "What are the chances that in the future you will have good friends?" (1=very bad; 5=excellent); "How happy are you with how popular you are?" (1=not at all happy at all; 5=extremely happy).

School Belonging. (Alpha=.70 at Wave 2). This scale assesses adolescents' perceptions of the respect they perceive from both teachers and schoolmates, as well as their perceptions of their "fit" and personal familiarity with their respective schools. The scale contains seven items, with a 5-point Likert scale, anchored in four different ways. Sample items include: "In this school, how many teachers show equal respect for students, whether the student is Black, White, Hispanic, Asian or American Indian?" (1=No teachers; 5=All teachers); "I feel like no one knows who I am in this school" (1=strongly agree; 5=strongly disagree); "How many students in this school help other students?" (1=No students; 5=All students).

Participation in Extracurricular School Activities. This scale assesses adolescents' level of participation in school extracurricular activities. The scale was created by taking the sum of three items that ask whether or not the adolescent participates in school sports, organizations and tutoring (1=Yes, 2=No).

Self-concept of academic ability. (Alpha=.79 at Wave 3) This measure assesses adolescents' perceptions of his or her academic ability. It is based on scales developed by Eccles [Parsons], et al. (1983). The scale contains four items, with seven-point Likert-type scales, anchored in two different ways. Sample items include: "How good are you in math?" (1=not at all good; 7=very good); "Compared to other kids your age, how well do you do in math?" (1=much worse than other kids; much better than other kids).

Self-perception of resilience. (Alpha= .74 at Wave 3) This scale measures the adolescents' perception of his or her ability to negotiate through difficult situations. The scale is comprised of four items, with a five-point response scale (1=almost never; 5=almost always). Items include: "Are you very good at bouncing back from bad experiences?"; "Are you very good at figuring out problems and planning how to solve them?"

School utility value. (Alpha=.75 at Wave 3) This scale assesses how important the adolescent believes school to be for his or her future. The scale contains four items with a five-point Likert scale (1=strongly disagree; 5=strongly agree). Items include: "I have to do well in school if I want to be a success in life"; "Schooling is not so important for kids like me" (reverse coded).

Importance of academic skills. (Alpha= .80 at Wave 3) This scale measures how important specific academic skills are to the adolescent, in comparison to other adolescents. The scale contains two items with a seven-point response scale (1=much less important to me than other kids; 7=much more important to me than other kids). Items include: "Compared to other students, how important is math to you?, Compared to other students, how important are other subjects to you?"

Grade Point Average[5]. This scale was created via self-report data collected during Wave 3 (4=A; 0=F). The variable was created by weighting the responses to items that asked the adolescent how many of each letter grade they had received, adding the weighted scores together, and then dividing the weighted score by the sum of the raw scores.

Plan of Analysis

I used structural equation modeling to examine the longitudinal relation between peer support, school belonging, motivation and academic achievement as outlined in the measurement model (see Figure 1). I took this approach because structural equation modeling, 1) allows the researcher to examine the relation between observed and latent variables, and 2) contends with the amount of standard error that is associated with the use of hierarchical linear regression techniques for model evaluation. I used the strictly confirmatory strategy of model development to evaluate the conceptual model as suggested by Joreskog and Sorebom (MacCallum, 1995). The strictly confirmatory approach differs from other approaches (e.g., model generation, model comparison) because it is not necessary to revise the original model until the best possible fit for the data is achieved. Hence, this approach requires that the researcher develop one model of interest to fit to the data. A model is considered to be plausible if it yields a good fit and interpretable parameters. However, if the fit is not sufficient, the model is deemed unsupported. In order to present a more complete indicator of the fit of the model assessed in this study, I will report five goodness-of-fit statistics provided by LISREL 8: 1) the chi-square goodness-of-fit, 2) the root mean square error of approximation

(RMSEA), 3) the goodness-of fit index (GFI), 4) the adjusted goodness-of-fit index (AGFI), and 5) the normed fit index (NFI).

Results

I tested a longitudinal structural equation model which sought to examine the relation between peer support and academic achievement in a larger conceptual model. I hypothesized that (controlling for racial composition of the school and parents' perception of their adolescent's social competence) social competence at Wave 2 would be positively related to peer support at Wave 2. Peer support would then be positively related to achievement motivation at Wave 3, and achievement motivation at Wave 3 would then be related to academic performance (measured by grade point average) at Wave 3. The results for structural equation modeling analyses are displayed in Figure 2. Overall, the model yielded a relatively poor fit [(c^2=269.60, df=60, p<.001); GFI=.93; AGFI=.89, NFI=.71, RMSEA=.08], and was rejected.

Discussion

To date, research findings examining the role of the peer group in African-American adolescents' academic achievement has consisted of studies focusing on the negative aspects of peer interaction. This myopic view of African Americans has hindered our understanding of the complexities of adolescents' social interaction. This investigation was an attempt to approach the study of peer group dynamics in a more normative fashion, by considering the positive aspects of peer group dynamics, and by using participants who come from families of diverse socioeconomic backgrounds. This

investigation also sought to increase our understanding of the role of peer support as it relates to academic achievement motivation and performance. With this purpose in mind, I chose to examine the role of peer support in a larger conceptual model. I will first summarize my findings, and then discuss the limitations of this investigation. I will then discuss future research directions.

Structural equation modeling analyses revealed a positive relation between social competence, peer support, school belonging, achievement motivation and grade point average. However, the full model fit the data poorly, suggesting considerable variance for which the present model has not accounted, as I may have neglected to include variables that are important contributors to the relations that I have sought to examine.

The parsimonious nature of the model may also contribute to the poor fit of the model. That is, the design of the model provides few chances for indirect relations between measures to account for variance. The lack of model fit also suggests that there may be excessive error variance in the measures I used. However, the scales that I used had reliability coefficients that range from adequate to very good. Therefore, excessive error variance within the scales themselves is an unlikely contributor to the poor fit of this model. Furthermore, examination of the residual values indicated that the largest residual values existed between school belonging and adolescent's perception of social competence ($\theta\varepsilon$=5.40) and the relation between gender and grade point average ($\theta\delta$=4.99). However, the modification indices of these parameters suggest that adjusting these parameters would not improve the fit of the model significantly. Therefore, it can be assumed that the poor model fit is attributed mostly to the design of the model, as well as important variables that were not included in the model.

What variables would I consider adding to the conceptual model? There are some additional determinants of peer support that I would consider as control variables. First, I would consider adding a measure of the size of the adolescent's peer network. Although previous research suggests that the size of the adolescent's peer network is not as important as the quality of support the adolescent receives, (e.g., Brownell & Schumaker, 1984; Coates, 1985) many adolescents (i.e., those who have been alienated or rejected) may not have a peer group from which to seek support. Clearly, the lack of a peer network would impact the amount of peer support the adolescent receives. Second, I would include a measure of the adolescents' satisfaction with the peer support he or she receives, for the quality of support may be directly related to the impact that support has on subsequent outcomes. Third, I would consider controlling for the time that the adolescent spends with his or her peers. Time spent with one's peers may be affected by other activities, such as after-school employment, that would relate directly to the amount of support one receives from the peer group.

The second set of variables that I would consider including relate directly to sources of support, which would make the conceptual model more global. That is, the model would no longer speak specifically to peer support, but to support from a variety of sources (i.e., parents, caregivers, teachers). I would consider taking this approach because it is possible that African-American adolescents' motivation to achieve is impacted more by teacher and family support than peer support, which would account for the poor model fit.

Limitations

One of the more prominent limitations of these studies is the use of mostly self-report data. One of the weaknesses of this approach is that the participants may not be entirely honest with their responses because they feel compelled to give answers that are socially desirable. Therefore, it could be the case that the results presented here are not completely accurate. It is for this reason that many studies use multi-level data in their analyses. This approach enables the researcher to incorporate more than one perspective via reports for multiple sources in his or her analysis of a phenomenon.

In addition, the measure I used to assess adolescents' perceptions of their social competence in my third study did not capture exactly what I originally intended to measure. I was attempting to measure the youths' perception of his or her ability to forge quality relationships with others, as well as the ability to contend with his or her environment (Cauce, 1986; Zigler, 1973). However, the measure I created (from available items) assesses the adolescents' satisfaction with his or her social status, as well as self-efficacy in terms of the ability to form and maintain friendships. Therefore, I am uncertain as to the relation between social competence as I originally conceptualized it, and the way in which it was measured. This discrepancy makes it difficult to make inferences about my findings in terms of the direct effects of youths' perceptions of social competence, with respect to prior research.

An additional limitation to this investigation is that the sample I used was non-random. Further, the sample was not proportionally representative of the national African-American population with respect to socioeconomic status. Therefore, these results are not necessarily generalizable to the African-American population on a national level. However, this sample is proportionally representative of the county in which these

adolescents reside. Therefore, these results are generalizable to that particular county. Further, the socioeconomic diversity of this sample provides some insight into a segment of the population that is often ignored when studying people of color-the middle class.

Future Research Directions

On a broader level, future research should acknowledge the complexities of peer dynamics by examining both positive and negative aspects of peer interaction. The present study has suggested that peer support may contribute to academic performance via achievement motivation. These findings have also suggested that African-American adolescents are nearly as likely to experience positive peer relationships as European American students, though the focus of a vast amount of previous research implies otherwise. In addition to acknowledging both the positive and negative aspects of peer interaction, future research should seek to disentangle the complex nature of support. To this end, we should seek to further understand the nature of peer support in terms of the types of outcomes for which it is positively and negatively effective. Then, we can develop ways in which peer support can be fostered and used to adolescents' benefit in the classroom, as well as other aspects of their lives.

Second, future research investigating the academic outcomes of African-American adolescents should work toward a theory of motivation that is more applicable to the experiences of African-American students. For example, the African Americans in this county exhibit equal or higher levels of value for education, and assign more importance to the acquisition of academic skills than do European Americans, yet they still lag behind in academic performance. According to conventional theories of

achievement motivation this should not be the case. Therefore, future research on motivation should examine within-group differences in motivation, as well as the relation between achievement motivation and academic outcomes more closely. As Graham (1992) argued, a vast majority of the studies which pertain to the motivation and subsequent academic achievement of African-Americans have been conducted in a comparative fashion, with the overarching assumption that African-Americans are deficient. These studies contribute very little to what we know about the variance that exists within the African-American community in terms of motivation and achievement. As a result, we still know very little about the relation between motivation and achievement for African-American students.

Thirdly, future research should examine other indicators of achievement. Perhaps motivation is not the most significant predictor of achievement for African Americans. It could be the case that other constructs, such as effort, contribute to a larger portion of the variance in African Americans' academic achievement than do more conventional motivational constructs. For example, the notion of effort is deemed equally as important as the actual grade the student receives in a specific course in many schools. Thus, an average grade (i.e., a "C") that was attained with an exceptional amount of effort is as highly regarded as an exceptional grade (i.e., an "A") that was attained with minimal effort. Thus, more appropriate theories of achievement (i.e., what is related to achievement for African Americans) are needed.

Finally, future work examining the educational outcomes of African Americans should bear in mind the impact of social structure. That is, the equity of educational resources and the applicability of school curricula to marginalized groups are issues that

cannot be ignored. For example, the participants in this study reside in a county that has an equally wide distribution of socioeconomic status among both African Americans and European Americans, yet African-American adolescents still lag behind in terms of academic performance. This is an indication that there are factors that contribute to disparities in academic achievement above and beyond social class. Further, if it is in fact the case that some African-American students believe that school success is something with which they cannot identify, this attitude can be associated with historically negative perceptions of African Americans' intellect. Thus, the study of African Americans' with respect to educational outcomes is often the study of the psychological impact of socially constructed attitudes and behaviors. We must gain a better understanding of how these attitudes influence the achievement behaviors of African-American adolescents.

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Table 1

Descriptive statistics for measures included in structural equation modeling analysis of the relation between peer support, belonging, achievement motivation and academic performance (N=515)

Variable	M	SD
Racial Composition of School	.70	.16
Parents' perception of adolescents' social competence	.16	.25
Gender	1.50	.50
Social Competence	1.98	.69
Communication Support	3.42	1.28
Availability of Support	2.85	.76
School Belonging	3.74	.61
Participation in School Activities	.89	.74
Importance of Academic Skills	5.10	1.28
School Utility Value	4.23	.68
Self-Concept of Academic Ability	5.05	.97
Self-Perception of Resilience	4.02	.65
Grade Point Average	2.87	.68

Table 2

Bivariate correlations for all variables included in LISREL analysis of the relation between peer support, school belonging, achievement motivation and academic performance for African-American adolescents (N=515)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. School Racial Composition	-	.100	-.031	.005	.010	-.015	.062	-.036	.033	.038	.101	-.009	-.029
2. Parents' Perception of Social Competence		-	-.059	.045	-.072	-.124	-.150	-.145	-.104	-.133	-.018	-.170	-.099
3. Gender			-	.081	.303	.199	.097	.030	.054	.107	.026	-.090	.237
4. Social Competence				-	.100	.007	.254	.084	.098	.099	.118	.150	.118
5. Communication Support					-	.480	.100	.049	.002	.076	.079	.006	.142
6. Availability of Support						-	.092	.052	.012	-.015	.036	.089	-.018
7. School Belonging							-	.073	.106	.158	.141	.115	-.009
8. Participation in School Activities								-	.079	-.117	.068	.181	.040
9. Importance of Academic Skills									-	.347	.546	.355	.300
10. School Utility Value										-	.240	.116	.322
11. Self Concept of Academic Ability											-	.357	.383
12. Self-Perception of Resilience												-	.260
13. Grade Point Average													-

Figure 1. Measurement model of the relation between social competence, peer support, school belonging, achievement motivation, and academic achievement for African American adolescents

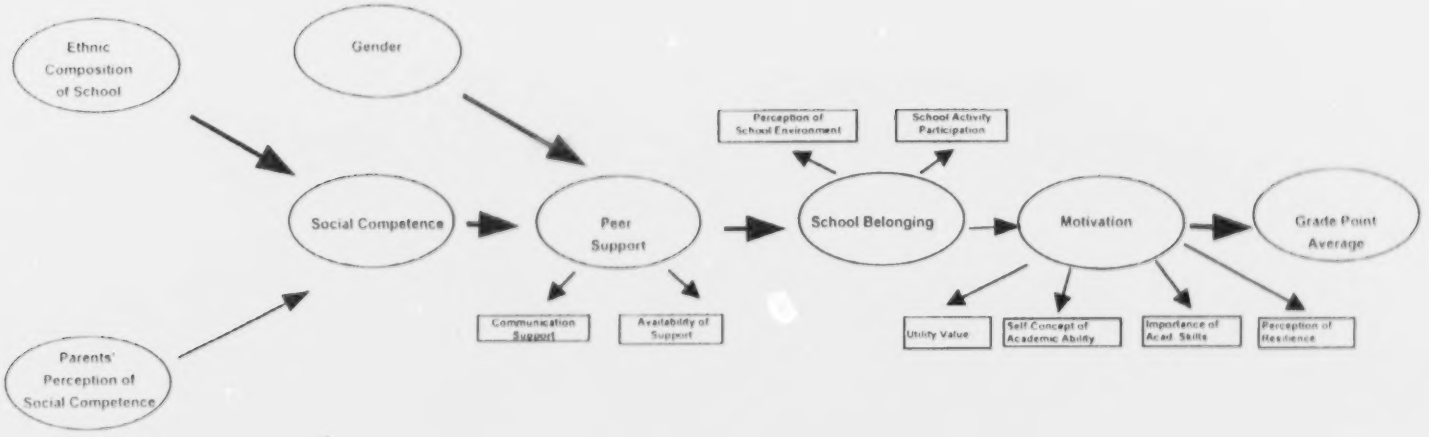

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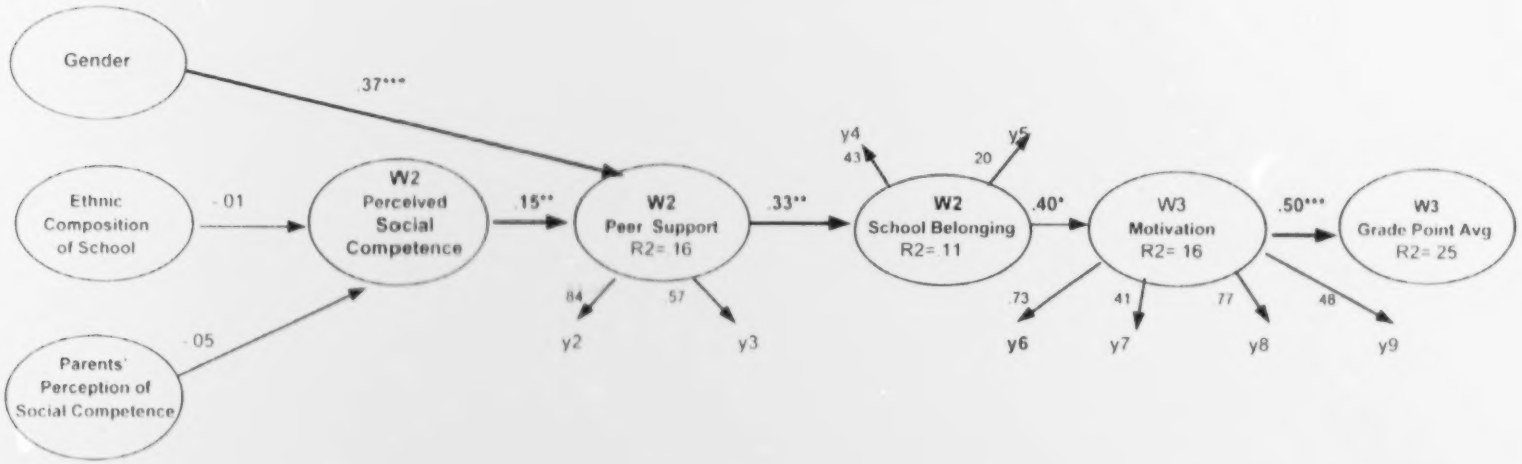
Figure 2 Structural equation modeling results for the relation between social competence, peer support, school belonging, achievement motivation, and academic achievement



Footnotes

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[1] Brownell & Schumaker (1984) define indirect effects as those which decrease the number and severity of stressors, while mediating effects "mitigate the adverse effects of stressful life events" (p.3).

[2] Principal investigators: Jacquelynne Eccles and Arnold Sameroff. This research was funded by the NICHD and the MacArthur Foundation Research Network on Successful Adolescence.

[3] Attrition information: approximately 72% of the original sample was retained for both Waves 2 and 3 (1060 and 1066 cases, respectively).

[4] Communication support is similar to support measures used in previous studies, which have commonly referred this measure as to as "confidant relationships" or "companionship support" (see Cohen & Wills, 1985).

[5] Self-report grades were used, because the school record data were not available at the time these analyses were conducted. However, in the previous wave (Wave 2), the correlation between self-report grade point average and grade point average computed from school record data was .75.

[6] The five goodness-of-fit indices reported in this study represent three classes of fit indices: 1) the chi-square, 2) absolute fit indices (i.e., GFI, AGFI), and 3) incremental indices (i.e., NFI).